THE TREATMENT OF CEREBRO-SPINAL MENINGITIS BY HOT BATHS.

DR. ALFRED WOLISCH reports seven cases, of which five completely recovered. Of the deaths, one was a *foudroyant* case, which died within forty-eight hours, the others in the late stage of the disease, the baths being employed only during the first two weeks. No statement can be definitely made as to the precise action of the baths, although it is probable that the resulting hyperæmia of the skin lessens the amount of blood contained in the brain and spinal cord. It is also likely that in the markedly increased perspiration, the toxin which has accumulated in the blood may be eliminated. These baths in the reported cases seemed to lower the temperature, to have a toning and regulating influence upon the heart, and to relieve pain and restlessness. The method is as follows: The patient is placed in the bath at the temperature of 90.5° to 92.75° F., and hot water gradually added until 104° F. is reached. While in the bath an ice-bag or a Leiter cold-water coil is placed upon the head. The placing in, and removal from, the bath are done with great care and rapidity; this means close proximity of bath and bed, and both should be at the same level. If there is great tenderness of the back, the sheet may be used to move the patient. The bath must be previously cushioned and thorough after-drying omitted. The patient is placed upon a dry sheet, laid upon a woollen quilt, and covered by the same, over which a light cover is placed; he remains in this position for one hour before removal. The time of the bath is immaterial—early morning or late evening. Nourishing food, even meat, should be given; even diarrhœa, should this occur, does not contraindicate it. Wine, brandy (in milk), also beer, are given, for the author regards alcohol as a tonic and hypnotic of the first rank in this disease.—*Therapeutische Monatshefte*, 1896, Heft 5, S. 254.

ZINC VALERIANATE IN HAY-FEVER.

DR. PETER H. ABERCROMBIE recommends this remedy in pill-form, three grains three times daily after meals for one full month before and the same time after the expected onset of the attacks. As local palliative measures he adds a 5 per cent. aqueous solution of cocaine hydrochlorate, and a snuff composed of bismuth and morphine.—*British Medical Journal*, 1896, No. 1842, p. 967.

COD-LIVER OIL.

DR. JOHN T. WINTER notes three dangers which threaten the usefulness of this remedy. The first is the result of a modern theory that a part equals the whole. This shows itself in the administration of the so-called alkaloids in place of the oil, when, as a matter of fact, the whole oil must be used if the best therapeutic results are desired. The second is the presentation of the "tasteless" oils, which do not contain any oil at all—a most cruel deception thus to impose upon those who place all their hope for health on this valuable remedy. The third is the unreliability and uncertainty of the emulsions in the market. Therefore, only preparations should be ordered which are reliable and of definite composition. Fortunately, all these dangers

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS. In Photo-lithochromes from Models in the Museum of the St. Louis Hospital, Paris. With explanatory woodcuts and text. By E. BESNIER, A. FOURNIER, TENNESON, HALLOPEAU, DUCASTEL, H. FEULARD, and L. JAQUET. English edition edited and annotated by J. J. PRINGLE, M.B., F.R.C.P. Part III. London: The Rebman Publishing Company, Ltd. Philadelphia: W. B. Saunders, 1896.

THIS—the third section of this *Atlas*—deserves the same favorable commendation as the preceding parts. The artistic standard is fully as high, and the selection of cases judicious. The diseases represented are syphilis of the tongue, dermatitis herpetiformis, syphilitic gummata, and epitheliomata of the face. The first plate (Fournier) pictures the several principal types of tongue-ulceration occurring in the advanced stage of syphilis, such as "sclerosing" glossitis and gummatous glossitis. The two forms of sclerosing glossitis are shown, the superficial or cortical, and the deep or parenchymatous. Of gummatous glossitis are exhibited the superficial or mucous form, and the deep or submucous or muscular. These cases are also further elucidated by analytical woodcuts. In the case of dermatitis herpetiformis depicted in the second plate (Hallopeau), the eruption is mostly of the type that is seen in erythema and herpes iris. A woodcut of this is also added. The third plate (Fournier) portrays syphilitic gummata of the thigh. This is an admirable presentation of this phase of syphilis, as is also that plate showing syphilis of the tongue, already referred to. These two plates are valuable additions to our pictorial representations of syphilis. The fourth plate (Besnier) shows a case of "disseminated epithelioma of the face of sebaceous origin." Slight and milder degrees of this condition are not at all infrequent in the practice of those of large experience. While the disease as here presented is much more extensive than usually noted, yet its characteristics are well shown, and the plate has, therefore, a distinct clinical value. This case is also further illustrated by a woodcut. A valuable feature of this publication is the clear and terse character of the accompanying text. Dr. Pringle's English is most readable and his translation from the French most satisfactory. H. W S.

AN ATLAS OF OPHTHALMOLOGY, WITH AN INTRODUCTION TO THE USE OF THE OPHTHALMOSCOPE. By DR. O. HAAB, Professor of Ophthalmology, University of Zurich. Translated and Edited by ERNEST CLARKE M.D., B.S. (Lond.). New York: William Wood & Co, 1895.

DR. CLARKE has performed a useful service in translating and editing Dr. Haab's *Atlas*, which consists of series of colored plates representing the normal and abnormal appearances of the fundus oculi. We have had occasion to use this *Atlas* not a little in teaching, and can testify to its value, although we believe, in spite of the author's assertion to the contrary, that it would have been better if the drawings had been made entirely by the direct method of examination. As it is, the indirect method has been employed, but the details have been supplied by the direct method. G. DE S.

PROGRESS

OF

MEDICAL SCIENCE.

THERAPEUTICS.

UNDER THE CHARGE OF

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THE DURATION OF VACCINAL IMMUNITY CONFERRED BY VARIOLA.

DR. J. J. MATIGNON has studied this question in the north of China. One hundred and twenty-two children were vaccinated by scarification or pricking; of these, seventy-three were successfully and two doubtfully vaccinated. The average age of the children was five and eleven-hundredths years; the average age at which they had been attacked by variola, three and eight-tenths years. From these observations he concludes that in this country variola confers only a temporary immunity against vaccination; its duration varies from seven to nine and three-tenths years. The success of the vaccination is in proportion to the age of the child, because children here are usually attacked by variola at an early age. Success in these vaccinations is in proportion to the quantity of vaccine inoculated. Vaccination by scarification presents no real advantages over that by pricking. On the contrary, the former is more frequently followed by adenitis, because the pustules are larger and more numerous and give greater opportunity for excavation than in the latter. In these cases the pustules were true vaccinal, because their serum was successfully inoculated in newly born children. There is no relation between the severity of an antecedent variola, judged by the cicatrices found on the face, and the vaccinal receptivity. Finally, it is necessary for Europeans living in Pekin, where the disease is endemic, who have undergone variola, to be revaccinated after a certain time.—*Bulletin Général Thérapeutique*, 1896, 7e liv. p. 314.

THE TREATMENT OF ATROPHIC CIRRHOSIS BY HEPATOTHERAPY.

DR. VIDAL has made use of the pulp of pig's liver in daily dosage of three or more ounces in three instances. The liver is obtained from an animal freshly killed, and the pulp is scraped with a knife. One and one-half ounces are given at the commencement of each meal in Laborde's *potage au tapioca* *médicinal*, which is admirably tolerated by most patients. This treatment acts by temporarily supplying the functions which have ceased or by producing a diuresis through the renal filter. In the cases reported diuresis was marked —*Les Nouveaux Remèdes*, 1896, No. 8, p. 229.

THE TREATMENT OF TYPHOID FEVER WITH TYPHOID THYMUS EXTRACT.

DR. GEORGE B. HENSHAW reports thirteen instances of its use, in eight of which the results have been as satisfactory as could be expected. In four the course of the disease has not been materially shortened, and one death from hemorrhage occurred. The injections have not been in any way injurious to the welfare of the patients, and the extract seems to be worthy of a further trial. He would suggest the use of a stronger and more concentrated extract and earlier and more persistent injections.—*Boston Medical and Surgical Journal*, 1896, vol. cxxxiv. p. 477.

SUPRARENAL EXTRACT IN ADDISON'S DISEASE.

MR. L. A. FRANCIS reports a single instance of the use of five grains of the dried gland as a tablet, three to six times daily. During ten weeks' treatment there was considerable improvement; then the patient remained well for five weeks. At this time he began to lose appetite and again got weak and thin, and finally died about two weeks later.—*British Medical Journal*, 1896, No. 1844, p. 1088.

LYSSA HUMANA

DR. RICHARD PALTAUF reports upon the use of antirabic inoculation in eighty-one persons, divided into three classes: The madness of the animal determined experimentally or by the development of madness in animals or men bitten at the same time, thirty-six cases; the madness of the animal determined by veterinary examination, thirty-eight cases; in the remainder the madness of the animal was highly probable. So far as known, lyssa has not developed in any of these instances during the year which has elapsed since the record has been finished.—*Wiener klinische Wochenschrift*, 1896, No. 16, S. 285.

FATAL POISONING BY OYSTERS.

DR. ANTON BROSCH reports a very carefully observed instance. The important findings were hemorrhages of the size of a pin-head in the cerebellum, œdema of the spinal pia, and hemorrhages in the gray matter, especially in the dorsal and lumbar regions, also in the pleuræ and lower portion of the ileum. The cardiac portion of the stomach was ecchymosed and the spleen enlarged. The microscopic examination of the heart and kidneys showed an advanced parenchymatous degeneration of the muscular fibres of the heart and of the renal epithelium. The protoplasm of the liver-cells was filled with large and small fat-balls. The cell-wall and the nuclei were not changed. The hemorrhages were probably due to the manner of the death, and not to the poison itself. Although the chemical examinations are unsatisfactory, the clinical picture is distinct and should not be mistaken. These cases should be separated into two classes: 1. The bacterial cholerines; and (2) the severe poisonings. In the first, evacuants and disinfectants should be given. In the last, the stomach should be cleaned by the pump and the intestine by high irrigation; frequent evacuations of the bladder by catheterization, artificial alimentation by the stomach-catheter, and artificial respiration if necessary. The poisoning is not of bacterial origin, but is due to a toxic substance, resembling an alkaloid, which is found preformed in the body of the animal. Similar bodies have been isolated from mackerel, as hydrocollidin, parvolin, and æthylendiamin. In other fishes compounds have been found resembling curare in their action. In horse-muscle a like substance, named mytilotoxin, has been detected, which gives rise to salivation and diarrhœa.—*Wiener klinische Wochenschrift*, 1896, No. 13, S. 219.

THE ABSORPTION OF IRON.

DR. JUSTUS GAULE, from his carefully conducted laboratory-experiments, formulates the following statements: 1. Not only the organic, but also the inorganic salts, as the chloride, are absorbed. 2. The chloride is absorbed, since, with the organic substances in the stomach, it is changed to an organic substance. 3. Absorption takes place almost exclusively in the duodenum, although in the stomach and small intestine it can be shown to take place. 4. The absorption takes place through the intestinal epithelium and through the central vessels of the cells; also in similar manner as the fats. 5. Two hours after the entrance of the iron preparation into the intestine there can already be shown in the pulp-cells of the spleen an increased deposition of the so-called iron-reserve. 6. The progress of the iron-absorption is completely normal, and does not result from a disturbance of the normal activity. —*Deutsche medicinische Wochenschrift*, 1896, No. 19, S. 289.

THE SUBCUTANEOUS INJECTION OF IRON SALTS IN THE TREATMENT OF ANÆMIA.

DOTT. SCIPIONE RIVA-ROCCI presents a very careful study of the literature of the subject. His clinical studies commenced in 1889, making daily use of a 10 per cent. solution of iron and ammonium citrate, one grain and upward of the drug being given in each injection. On account of severe febrile reaction the periods of observation were too short for definite conclusions. Injections of 10 per cent. ethereal solution of ferric chloride proved to be so irritating that he returned to the first-mentioned preparation. The forty cases which are briefly reported show that the method is practicable and yields good results. In every instance in which the injections were continued sufficiently the percentage of hæmoglobin regularly increased, and contemporaneously the phenomena of anæmia, both subjective and objective, decreased. These reports show that the anæmic condition can be markedly benefited by iron when given subcutaneously.—*Il Policlinico*, 1896, No. 8, p. 168.

DR. J. M. DA COSTA has experienced difficulty in finding a stable, non-irritating preparation. The least objectionable is probably ferrous manganese citrate in daily dose of three grains. Full antiseptic precautions must be observed. The crystals are powdered in a mortar and dissolved in hot distilled water, one grain of the drug to five minims of water. Of this, fifteen minims represent three grains of the compound salt. Iron should not be injected indiscriminately, but only when rapid action is needed, as after exhausting hemorrhage or in anæmic persons with delicate digestion, who cannot assimilate iron by the stomach; or in gastric ulcer when it is desirable to prescribe iron, or when iron given by the mouth constipates excessively, or when a decided action on the nervous system is required. It is claimed for iron thus introduced that it remains in the organism as an assimilable substance, producing hyperæmia in various organs and tissues, favoring the absorption of œdema in anæmic patients, the destruction of old red blood-corpuscles, and the formation of new hæmatins. It may act directly upon the whole blood-forming apparatus, and not indirectly, as when introduced by the mouth. Or it may be stored up in the liver, from which it is slowly excreted into the blood.—*Therapeutic Gazette*, 1896, No. 5, p. 289.

THE TREATMENT OF PERNICIOUS ANÆMIA.

DR. ALFRED STENGEL considers the specific treatment to consist in the use of these remedies: Iron, arsenic, and bone-marrow. Clinical experience allows no question regarding the value of the first in various anæmic conditions. In certain cases of the pernicious variety good results have been obtained; but in most it is of little value, and it may contribute to the patient's discomfort and unfavorably influence the progress of the disease if it should be administered during its active stage. In convalescence, however, it is valuable, as Blaud's pill, iron albuminoid, or one of the physiological preparations. The latter have no special advantage over some of the inorganic preparations, excepting that they may be more acceptable to the stomach and not so constipating. In many cases arsenic is a specific—in that it has really power to combat the progress of the disease and perhaps to effect a cure. It may in some way prevent intestinal putrefaction, increase the resisting power of the blood-corpuscles, or increase the hæmogenetic function. Ordinarily Fowler's solution, administered by the mouth in from five to twenty-drop doses three times daily, proves to be sufficient. If the dose has reached this limit without noticeable change in the condition of the blood, great care should be exercised in the further increase of dose. If gastro-intestinal disturbances are feared, it may be administered hypodermatically in dose from five to ten drops with an equal part of water. The use of bone-marrow can scarcely be said to rest upon a scientific basis, since the marrow is nowise an organic secreting tissue. Regarding the variability in action in different cases, much may depend upon the method of its preparation. The plain marrow cannot always be administered on account of the objection of the patients. The red marrow from the tibia of the calf, mixed with an equal quantity of glycerin and rubbed up in a mortar, results in a preparation of pleasant taste and one that can be eaten with bread without disturbing the stomach. The preparation may be made more fluid by the addition of claret or port wine. Besides these remedies measures directed to the improvement of the general circulation and to the prevention of gastro-intestinal fermentation must be adopted.—*Therapeutic Gazette*, 1896, No. 5, p. 293.

THE VALUE OF FORCED ARTIFICIAL RESPIRATION IN SAVING HUMAN LIFE IN CHLOROFORM, ETHER, AND NITROUS OXIDE NARCOSIS.

DR. GEORGE E. FELL claims that within the past nine years one hundred human lives have been saved by the Fell method, which would certainly have been sacrificed had reliance been placed upon the methods at the command of the profession previous to this period. The success of the method has demonstrated that two accepted opinions are not accurate: (1) That the air-vesicles of the lungs would not resist forcible mechanical measures; and (2) that the epiglottis would not fall and close the glottis in forced respiration. This method is not only useful in opium-narcosis—the reason for its use at first—but in all cases of asphyxia or superficial respiration from any cause in which artificial respiration may be needed it is the most easily applied and the most reliable method known. A single instance of its use in morphine-poisoning, the drug having been administered hypodermatically, is reported with great care. In this instance the method was successfully employed for four days and three nights; the total time of constant use was nearly eighty hours.—*Medical Record*, 1896, No. 1334, p. 760.

THE TREATMENT OF ATONY OF THE SMALL INTESTINE IN NEURASTHENICS.

DR. CHALMET, believing that whether the nervous system presiding over the epithelial (secretion and absorption) and muscular functions may or may not play the principal part in this condition, the best method of improving the tone of the nerve is to nourish it better. To improve nutrition he administers during the early hours of intestinal digestion salt-water enemata of a concentration above that of blood-serum—*e. g.*, 0.1 to 1.2 per cent. of salt—in order that he may produce in the large intestine an osmotic current which shall act at a distance upon the small intestine, retarding absorption and permitting the transformation of food-stuffs to go on for a longer period before absorption of the liquid containing these substances in solution.—*Journal des Praticiens*, 1896, No. 18, p. 276.

POTASSIUM PERMANGANATE IN THE TREATMENT OF OPIUM-POISONING.

DR. ARTHUR P. LUFF believes that his experiments demonstrate the selective faculty of this drug for morphine in the stomach-contents, and confirms Moor's conclusion as to its value as an antidote. When the quantity is known the antidote should be given slightly in excess of the morphine. If laudanum in known quantity has been taken, six grains should be given for each fluidounce of poison. If the amount of morphine or opium is unknown, eight to ten grains should be administered, according to the severity of the symptoms, dissolved in from four to eight ounces of water. The stomach should be washed out at half-hour intervals with a weak solution of the antidote. In cases of poisoning by the hypodermatic injection of morphine the hypodermatic injection of the antidote would not likely be of use. In cases of threatened respiratory failure, strychnine, preferably, or atropine should be given hypodermatically, and, if necessary, artificial respiration be resorted to.

MR. F. P. MAYNARD states that this is a strictly local antidote, acting only upon such opium as it comes in contact with in the stomach, and can have no effect upon such as has already been absorbed. The treatment is excellent, as leading to a thorough washing out of the stomach and at the same time affording a reliable indication when this has been accomplished. It is not to be expected that it will save life when a lethal quantity has already been absorbed into the circulation, nor can it be regarded as a physiological antidote, as is eserine to atropine.—*British Medical Journal*, 1896, No. 1846, p. 1193.

CHLOROSIS, WITH ESPECIAL REFERENCE TO ITS TREATMENT BY INTESTINAL ANTISEPTICS.

DR. CHARLES W. TOWNSEND reports thirty cases, which could be carefully followed, treated with beta-naphtol, without iron, for purposes of intestinal antisepsis. Two grains were given three times daily, and the average length of treatment was three and one-third weeks. The average gain in hæmoglobin per week was 1.85 per cent. There were thirty-one cases treated with Blaud's pills, five grains thrice daily for an average of four weeks. The average gain of hæmoglobin was 5.07 per cent. Seven patients who were constipated were treated with cascara alone, but the results were not very encouraging, for the average loss of hæmoglobin was 1.50 per cent. per week in an average of two and one-seventh weeks' treatment. Of the thirty-one cases above mentioned which were treated with iron, twelve had previously received beta-naphtol for three weeks. These, when put on iron, gained 6.7 per cent. per week for an average of four and two-thirds weeks. An additional series of twenty-eight cases were treated by two grains of beta-naphtol and four grains of Blaud's pills thrice daily. The results were considerably better than those obtained by iron alone and much better than those with beta-naphtol alone.—*Boston Medical and Surgical Journal*, 1896, vol. cxxxiv. No. 528.

THE QUESTION OF DOSE IN CERTAIN FORMS OF NERVOUS DISORDERS.

MR. WALTER TYRRELL wishes to record a practical point in the treatment of those nervous disorders which arise from exhaustion of the nervous system. These conditions may be classified as (1) those in which loss of control and irritable action are the main symptoms; and (2) those marked more by depression and loss of functional power. In both forms good results are to be obtained, provided we can nourish the brain without stimulating it; and, further, the doses must be small and a full allowance of time given. Especially useful are cod-liver oil, the phosphates, and small doses of arsenic or iron. The one drug which is most useful is nux vomica, but the pharmacopœial dose of one-quarter to one grain will, in the large majority of cases, increase the intensity of the symptoms. If, however, we use one-hundredth, or even one-half of this, of a grain and continue it for months, instead of days, the result will be a complete, though gradual, recovery.—*British Medical Journal*, 1896, No. 1843, p. 1031.

can be removed, but at the same time the facts upon which the remedy rests its reputation must be kept clearly in mind.—*Journal of Medicine and Science*, 1896, No. 7, p. 432.

THE EXPRESSED JUICE OF CARROTS.

DR. S. ARTAULT DE VEVEY reports the results of the use of this substance in the treatment of impetigo and tuberculosis. Succinic acid possesses a certain reputation as a remedy for tuberculosis, and this suggested these vegetables as a source of it, although they apparently rather stimulate the nutrition than possess any local antiseptic effect. The amount given to children is from one and one-half ounces to three times that quantity of the juice expressed from raw carrots, with a pinch of table-salt. Experiments with rabbits showed that when tuberculous the disease made but little progress, while the animals became fat, partly because carrots, from their richness in sugar, albuminoids, and water, are excellent food for these animals. Further than this, their depurative action would be beneficial in such conditions as impetigo.—*Revue de Thérapeutique*, 1896, No. 9, p. 267.

THE CREOSOTE TREATMENT OF PULMONARY TUBERCULOSIS.

DR. PETER KAATZER has found that the manner and way of administration are important. Sommerbrodt's gelatin capsules (one and one-half grains with double this amount of balsam of tolu) do not yield all the creosote for absorption, because masses of the balsam still containing creosote are found in the feces. The irritant effect of this drug upon the stomach must also be taken into consideration. The pills are also uncertain, having been found undissolved in the stools. Hopmann's mixture (with tincture of gentian) often produces coughing, and besides is of objectionable taste; when one considers that, in addition, it is often given upon an empty stomach, we find excellent reason for the disfavor in which it is held by the laity. The odor and taste can be concealed by various ethereal oils or by extract of coffee. If the latter is used, there is the additional advantage that the drug is diluted in the stomach. This combination can be given, preferably after meals, in milk or Bavarian beer, but not more than thirty drops of the drug should be given each day.—*Therapeutische Monatshefte*, 1896, Heft 5, S. 265.

CREOSOTE IN THE TREATMENT OF TUBERCULOSIS OF THE UPPER AIR-PASSAGES.

DR. WALTER F. CHAPPELL has treated during the past three years thirty-two persons, who had tuberculous deposits in some part of the upper air tract, with this drug internally and locally. The former is attained by the use of equal parts of beechwood creosote and compound tincture of gentian up to ninety drops daily, thoroughly mixed with hot milk. For the latter, solution has been made in castor oil, and applications made, either by means of a dropper or an automatic syringe, when the parts are brought into view in a laryngeal mirror. He concludes that there can be no doubt that the drug, internally and topically, is beneficial at some period in many cases of tuberculosis of the upper respiratory tract. When the ulceration is extensive and progressing it will occasionally produce cicatrization; in others, it limits the ulceration and modifies the pain and discomfort. The benefits are as permanent as from any other form of treatment. The greatest relief and progress are obtained in the chronic cases, while small ulcerations are decidedly affected by creosote.—*New York Medical Journal,* 1896, No. 910, p. 604.

MEDICINE.

UNDER THE CHARGE OF

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AN H_2S-FORMING BACILLUS AS THE CAUSE OF CROUPOUS PNEUMONIA.

To the interesting literature concerning H_2S-forming bacteria **JOHANNES MÜLLER** (*Centralblatt für innere Med.*, 1896, No. 26) reports the following from the Würzburg clinic: For three weeks a man of fifty-six years complained of loss of energy, headache, and frequent chills. Finally he had a severe chill and other usual symptoms of pneumonia, and when admitted, two days later, presented physical signs of infiltration of the left lower lobe with slight involvement of the left and right upper lobes. There was herpes facialis; the sputum was of characteristic appearance. The urine was clear; chemical examination negative. The patient died two weeks later, having had two pseudocrises, followed each time by renewed infiltration. One day before death the urine was found to be turbid, and the turbidity could not be removed by filtering. Albumin-tests caused but a slight increase in the turbidity. The urine was acid. It had a marked odor of H_2S and gave the usual reaction to lead. Hyaline casts, some of them containing epithelial cells and large numbers of bacilli, were found on microscopic examination. Urine passed later always contained similar bacilli. The sputum and expired air gave no odor of H_2S, but the sputum contained bacilli morphologically identical with those in the urine. The bacilli were cultivated from the urine and sputum and from blood taken one hour after death, producing large quantities of H_2S in the cultures. In the sputum only a few other bacteria were present; in the blood and urine the bacilli were in pure culture. Autopsy showed pneumonic infiltration with œdema and recent pleurisy.

The author thinks the unusually long prodromal stage in this case was due to the peculiar organism, which seemed to be a colon-bacillus or one closely related to the latter. The fact that large numbers of virulent organisms can circulate without producing metastases, and pass through kidneys but slightly altered structurally, is strikingly illustrated.